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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/674,833 | 09/30/2003 | Michael P. Upton | CM05751J | 4477 |

7590 10/10/2006
MOTOROLA, INC.
8000 West Sunrise Boulevard; Room 1610
Plantation, FL 33322-9947

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| EXAMINER |
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ALAM, FAYYAZ

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| ART UNIT | PAPER NUMBER |
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2618

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,833

Applicant(s)

UPTON, MICHAEL P.

Examiner

Fayyaz Alam

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/30/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement submitted on 9/30/2003 been considered by the Examiner and made of record in the application file.

Claim Objections

2. **Claim 9** is objected to because of the following informalities: on line 3 replace "active" with "act". Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Collyer (U.S. Patent # 5,915,208)** in view of **La Fratta et al. (U.S. Patent # 6,169,880)**.

Consider claim 1, Collyer discloses a radio communication system (100; see fig. 1), comprising:

- a portable radio (130) that transmits radio signals;

- a first vehicular repeater system (110), comprising:

- a VR1 (112) (read as vehicular repeater) that can communicate with mobile station (130) via communication link 131;

- a mobile 1 (114) (read as first mobile radio) coupled to VR1 (112) (read as first vehicular repeater) and able to retransmit signals received by vehicular repeater system (110) via signal path (115) (see col. 3, lines 22 - 25);

- wherein VR1 (112) (read as first vehicular repeater) is the priority repeater and has primary responsibility to repeat radio signals (see col. 3, lines 22 - 25) transmitted by portable radio (130), and wherein VR1 (112) (read as first vehicular repeater) sends an acknowledgment signal (read as priority signal) in order to indicate priority and thereby remain in priority (read as capable of transmitting a priority signal to indicate that it is to remain in priority repeater status; see col. 4, lines 1 - 9);

- a second vehicular system (120), comprising: a VR2 (122) (read as second vehicular repeater);

a mobile 2 (124) (read as second mobile radio) coupled to VR2 (122) (read as second vehicular repeater) and able to retransmit signals received by VR2 (122) (read as second vehicular repeater) via signal path 325 (see fig. 3); and

wherein VR2 (122) (read as second vehicular repeater) monitors to detect (read as receive) the acknowledgement signal (read priority signal) by VR1 (112) (read as first vehicular repeater) (see fig. 1; col. 3, lines 12 - 15; col. 4, lines 29 - 45; and col. 4, lines 1 - 9).

However, Collyer fails to disclose the second vehicular repeater system transmits a notification signal when activated.

In the related field of endeavor, La Fratta et al. disclose second repeater (read as second vehicular repeater) entering a region would transmit a tone indicating its presence (read as notification signal when activated) (see col. 2, lines 21 - 22).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Collyer with the teachings of La Fratta et al. in order to announce the presence of a repeater in a multitude of repeaters and determine priority.

Consider **claim 8** as applied to claim 1, Collyer discloses a delay state counter (206) (read as at least one counter) included in second vehicular system (120) working with a receiver (202) to switch between priority and non-priority state (read as idle state) upon detection of an acknowledgement signal (read as priority signal) (see col. 3, lines 50 - 56; col. 4, lines 1 -20).

Consider **claim 10** as applied to claim 8, Collyer discloses a delay state zero (read as value of zero) by the delay state counter (206) (read as at least one counter) is indicative of priority status and a delay state of non-zero (read as value of one) is indicative of non-priority state (read as idle state) (see col. 3, lines 50 - 56).

Claims 2 - 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Collyer (U.S. Patent # 5,915,208)** in view of **La Fratta et al. (U.S. Patent # 6,169,880)** as applied to claims above, and further in view of **Spencer (U.S. Patent # 6,381,322)**.

Consider **claims 2 and 3** as applied to claims 1 and 2, Collyer as modified by La Fratta et al. fail to disclose the priority signal is a tone signal and the tone is transmitted over a voice channel.

In the related field of endeavor, Spencer discloses that the priority signal is a tone signal that is transmitted over voice channel (see col. 2, lines 20 - 28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Collyer and La Fratta et al. with the teachings of Spencer in order to implement existing priority techniques in the wired telephone architecture to conserve financial resources, especially, since no reasoning is supplied in the disclosure as to the benefit using such technique.

Consider **claims 4** as applied to claims 1, Collyer as modified by La Fratta et al. fail to disclose priority radio signal is a digital signal.

In the related field of endeavor, Spencer discloses the invention can implemented in an analog telephone and/or a digital telephone and therefore the priority signal can be a digital signal or an analog signal (see col. 1, lines 64 - 67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Collyer and La Fratta et al. with the teachings of Spencer in order to implement existing priority techniques in the wired telephone architecture to conserve financial resources, especially, since no reasoning is supplied in the disclosure as to the benefit using such technique.

Claims 5, 7, and 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Collyer (U.S. Patent # 5,915,208)** in view of **La Fratta et al. (U.S. Patent # 6,169,880)** as applied to claims above, and further in view of **Diachina et al. (U.S. Patent # 6,795,428)**.

Consider **claim 5** as applied to claim 1, Collyer as modified by La Fratta et al. fail to disclose notification signal is a tone signal.

In the related field of endeavor, Diachina et al. disclose notification signal by the first mobile station is a tone signal at select frequency (see col., lines 44 - 55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Collyer and La Fratta et al. with the teachings of Diachina et al. in order to implement well-known techniques to conserve financial resources, especially, since no reasoning is supplied in the disclosure as to the benefit using such technique.

Consider **claim 7** as applied to claim 5, Collyer as modified by La Fratta et al. and further modified by Diachina et al. fail to disclose tone is transmitted over a voice channel.

In another embodiment, Diachina et al. disclose that the tone is transmitted when a user of the mobile terminal wishes to communicate voice traffic to the network and therefore the tone would be transmitted through voice channel (see col. 9, lines 33 - 35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Collyer as modified by La Fratta et al. with the teachings of Diachina et al. in order to implement well-known techniques to conserve financial resources, especially, since no reasoning is supplied in the disclosure as to the benefit using such technique.

Consider **claim 9** as applied to claim 7, Collyer discloses the delay state counter (206) (read as at least one counter) determines the priority status by switching the delay state counter (206) from a delay state of zero or priority state (read as active) to a non-zero state or non-priority state (read as idle state) based on the priority of the vehicular repeater (see col. 3, lines 50 - 56). Although, not stated explicitly that the counter switches from priority state to idle state but the fact that the priority state is mentioned first and non-priority or idle state is mentioned second, infers to the fact that the counter is initially in priority state.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Collyer (U.S. Patent # 5,915,208)** in view of **La Fratta et al. (U.S. Patent # 6,169,880)** as applied to claims above, and further in view of **Petite (U.S. Application # 2005/0043860)**.

Consider **claim 6** as applied to claim 1, Collyer as modified by La Fratta et al. fail to disclose notification signal is a digital signal.

In the related field of endeavor, Petite discloses that the notification signal is in a digital format (read as digital signal) (see 0192)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Collyer and La Fratta et al. with the teachings of Petite in order to implement well-known techniques to conserve financial resources, especially, since no reasoning is supplied in the disclosure as to the benefit using such technique.

Claims 11 - 14, 19 - 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **La Fratta et al. (U.S. Patent # 6,169,880)** in view of **Collyer (U.S. Patent # 5,915,208)**.

Consider **claims 11 and 19**, La Fratta et al. disclose multiple repeaters in the vicinity of portable radio and are active (read as activating first and second repeaters at same predetermined location and also read as activating at least one additional repeater upon arrival at an operational area). After receiving a message from the portable radio to be retransmitted, the repeaters send out an enable signal to other repeaters in the vicinity to claim priority repeater status and the repeater that transmits the enable signal first gets the priority repeater status which would be the repeater that arrives at a given location first (read as allowing first vehicular repeater to maintain priority status) and therefore it would be able to remain (read as maintain priority) in priority (see col. 1, lines 64 - 67 - col. 2, lines 1 - 6).

However, La Fratta et al. fails to disclose transmitting and generating a radio frequency notification signal tone by the second vehicular repeater system or at least

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one additional repeater indicating presence to other vehicular repeaters at the predetermined location or operational area; initiating or starting normal repeater activity by the second vehicular repeater system or the at least one additional repeater; receiving or monitoring an RF priority signal at the second vehicular repeater system sent by the first vehicular repeater system; and switching the at least one counter at the second vehicular repeater system into an idle state based on receipt of the RF priority signal.

In another embodiment, La Fratta et al. disclose second repeater (read as second vehicular repeater and at least one additional repeater vehicular repeater) entering a region would transmit a radio frequency (since radio communication is disclosed; see fig. 1) tone indicating its presence (read as transmitting and generating notification signal tone) (see col. 2, lines 21 - 23) and will start transmitting since its delay state count is at zero (read as initiating normal repeater activity by the second vehicular repeater system and also read as at least one additional vehicular repeater) (see col. 2, lines 14 - 35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to slightly modify the teachings of La Fratta et al. in order to reduce interference by having some kind of organization in the priority scheme and not every repeater transmitting at the same time.

Nevertheless, La Fratta et al. fail to disclose receiving or monitoring an RF priority signal at the second vehicular repeater system sent by the first vehicular

repeater system; and switching the at least one counter at the second vehicular repeater system into an idle state based on receipt of the RF priority signal.

In the related field of endeavor, Collyer discloses second vehicular repeater monitoring to detect an acknowledgement signal (read as receiving RF priority signal) from first vehicular receiver and if said signal is detected (read as received) the second vehicular repeater assumes non-priority (read as switching to idle state) (see col. 4, lines 1 - 6) since it is disclosed by Collyer that the second vehicular repeater assumes priority when the acknowledgement signal (read as priority signal) is not detected and therefore the opposite must be true.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of La Fratta et al. with the teachings of Collyer in order to allow the existing priority repeater to remain or maintain priority status as disclosed by La Fratta et al. where the first repeater to transmit an enable signal would be the priority repeater which in every case would be the repeater that arrives at a given location first.

Consider **claim 12** as applied to claim 11, La Fratta et al. disclose second repeater transmits a tone indicating presence (read as transmitting notification signal) and assumes (read as initialize) a delay state of zero (read as priority state) (see col. 2, lines 21 - 23).

Consider **claim 13** as applied to claim 11, La Fratta et al. disclose second repeater (read as second vehicular repeater) is in a delay state of zero or priority status (see col. 2, lines 21 - 23).

However, La Fratta et al. fail to disclose incrementing a counter in the second vehicular repeater an idle state in the second vehicular repeater in response to receipt of the priority signal.

In the related field of endeavor, Collyer discloses when an acknowledgement signal (read as priority signal) is not detected (read as not received) the second vehicular repeater goes to priority status by updating its delay state counter to zero. Therefore, the opposite is true, when the acknowledgement signal (read as priority signal) is detected (read as received) the said repeater goes to non-priority (read as idle) state which as disclosed is non-zero and furthermore would yield an increment of the delay state counter (see col. 3, lines 50 - 56; and col. 4, lines 1 - 26).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of La Fratta et al. with the teachings of Collyer in order to allow the existing priority repeater to remain in priority status as disclosed by La Fratta et al. where the first repeater to transmit an enable signal would be the priority repeater which in every case would be the repeater that arrives at a given location first.

Consider **claims 14 and 21** as applied to claims 13 and 19, La Fratta et al. disclose the delay state of zero is indicative of priority status and delay state of one is indicative of non-priority status (see col. 2, lines 14 - 35).

Consider **claim 20** as applied to claim 19, La Fratta et al. fail to disclose the at least one additional vehicular repeater remains in a priority state if no RF priority signal is received.

In the related field of endeavor, Collyer discloses when an acknowledgement signal (read as RF priority signal) is not detected (read as not received) the second vehicular repeater or at least one additional repeater goes to priority status and remain there until the acknowledgement signal (read as RF priority signal) is detected or received (see col. 4, lines 5 -9).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of La Fratta et al. with the teachings of Collyer in order to have a priority repeater the first vehicular repeater is not functional or leaves the location.

Claims 15 - 18, and 22 - 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **La Fratta et al. (U.S. Patent # 6,169,880)** in view of **Collyer (U.S. Patent # 5,915,208)** as applied to claims above, and further in view of **Flynn et al. (U.S. Patent # 5,583,885)**.

Consider **claims 15 - 18, and 22 - 23** as applied to claims 11 and 19, La Fratta et al. as modified by Collyer fail to disclose notification signal is an analog tone signal; notification signal is a digital signal; priority signal is an analog tone signal; priority signal is a digital signal; and notification signal tone and priority signal tone are digital packet signals.

In the related field of endeavor, Flynn et al. disclose Channel Guard tone (read as analog tone signal) and Digital Channel guard tone (read as digital tone signal) for conducting communication and if no channel guard tone is detected the communication is terminated (read as notification signal and priority signal as used for activation or

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presence of the repeater and initiate and maintain communication). In addition, Flynn et al. also disclose every communication transmitted from a radio unit must be accompanied by a simultaneously transmitted channel guard tone or digital code (read as digital packet signals since the communication is digital therefore tone would be embedded in digital packets) (see col.1, lines 14 - 67; and col. 2, lines 1 - 14).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of La Fratta et al. and Collyer with the teachings of Flynn et al. in order to implement existing techniques to conserve financial resources. The signaling technique of using tones is well known in the art through the Motorola CTCSS (Continuous Tone-Coded Squelch System) and DCS (Digital Coded Squelch) signaling systems and also similar technique developed by General Electric, which is referenced above.

Conclusion

5. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Fayyaz Alam whose telephone number is (571) 270-1102. The Examiner can normally be reached on Monday-Friday from 9:30am to 7:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Fayyaz Alam

September 21, 2006

EDAN ORGAD
PATENT EXAMINER/TELECOM

